AMENDMENTS TO THE CLAIMS

The following is a complete, marked-up listing of revised claims with a status identifier in parenthesis, underlined text indicating insertions, and strike through and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1. (Currently Amended) A computer readable medium storing a data structure for managing reproduction of video data, comprising:

a data directory for storing stream files, each stream file including a portion of video data associated with one of a common reproduction path and a particular reproduction path, each particular reproduction path being one path among multiple reproduction paths in the video data;

a playlist directory for storing a playlist file, the playlist file including at least one playitem, the playitem indicating a playing interval from in-point until out-point, the in-point and out-point pointing to time positions on a time axis of the video data; and

a clip information directory for storing clip information files for managing reproduction of the video data, each one of the clip information files being associated with a different one of the stream files and each one of the stream files being associated with different one of the multiple production paths when the stream files include the portion of video data associated with the multiple production paths, each clip information file including a map for the associated stream file, the map mapping a presentation time stamp to an address for at least one entry point in the associated stream file,

wherein the video data includes data packets and each data packet has a packet number that differentiates one data packet from another data packet, and the

map identifies the address for the at least one entry point by identifying the packet

number of the data packets, and a path change among the multiple reproduction

paths is performed at the entry point identified by the map.

2. (Previously Presented) The computer readable medium of claim 1, wherein the

stream files are interleaved.

3. (Previously Presented) The computer readable medium of claim 2, wherein the

stream files associated with the particular reproduction paths are interleaved between

the stream files associated with the common reproduction paths.

4. (Previously Presented) The computer readable medium of claim 2, wherein the

common reproduction path and the particular reproduction path are respectively

divided into one or more interleaving units, the interleaving units include packets

associated with entry points, and a size of the interleaving unit and a number of entry

points in the interleaving unit are determined to meet a buffer occupancy of a

reproducing apparatus.

5. (Previously Presented The computer readable medium of claim 4, wherein the size

and the number of entry points are determined to prevent a buffer from under-flowing

or over-flowing during reproduction of the stream files.

6. (Previously Presented) The computer readable medium of claim 5, wherein more

than one stream file is associated with one reproduction path when the one

reproduction path includes data exceeding a stream file size to prevent the

reproducing apparatus buffer from over-flowing during reproduction of the stream

files.

7-8. (Cancelled)

9. (Previously Presented) The computer readable medium of claim 1, wherein the

stream files have a size to prevent a reproducing apparatus buffer from under-flowing

during reproduction of the stream files.

10. (Previously Presented) The computer readable medium of claim 1, wherein the

stream files have a size to prevent the reproducing apparatus buffer from over-flowing

during reproduction of the stream files.

11. (Cancelled)

12. (Currently Amended) A method of recording a data structure for managing

reproduction of video data on a recording medium, comprising:

recording stream files on the recording medium, each stream file including a

portion of video data associated with one of a common reproduction path and a

particular reproduction path, each particular reproduction path being one path among

multiple reproduction paths in the video data;

recording at least one playlist file on the recording medium, the playlist file

including at least one playitem, the playitem indicating a playing interval from in-point

until out-point, the in-point and out-point pointing to time positions on a time axis of

the video data; and

recording clip information files on the recording medium, the clip information

files for managing reproduction of the video data, each one of the clip information files

being associated with a different one of the stream files and each one of the stream

files being associated with different one of the multiple production paths when the

stream files include the portion of video data associated with the multiple production

paths, each clip information file including a map for the associated stream file, the

map mapping a presentation time stamp to an address for at least one entry point in

the associated stream file,

wherein the video data includes data packets and each data packet has a

packet number that differentiates one data packet from another data packet, and the

map identifies the address for the at least one entry point by identifying the packet

number of the data packets, and a path change among the multiple reproduction

paths is performed at the entry point identified by the map.

13. (Currently Amended) A method of reproducing a data structure for managing

reproduction of video data recorded on a recording medium, comprising:

reproducing at least one playlist file from the recording medium, the playlist

file including at least one playitem, the playitem indicating a playing interval from in-

point until out-point, the in-point and out-point pointing to time positions on a time

axis of the video data;

reproducing at least one clip information file from the recording medium, the

clip information file for managing reproduction of the video data; each one of the clip

information files associated with a different one of stream files, each clip information

file including a map for the associated stream file, the map mapping a presentation

time stamp to an address for at least one entry point in the associated stream file, and

reproducing at least one stream file from the recording medium, each stream file including a portion of video data associated with one of a common reproduction path and a particular reproduction path, each particular reproduction path being one path among multiple reproduction paths in the video data, wherein each one of the clip information files being associated with different one of stream files, and each one of the stream files being associated with different one of the multiple reproduction paths when the stream files include the portion of video data associated with the multiple reproduction paths, each clip information file including a map for the associated stream file, the map mapping a presentation time stamp to an address for at least one entry point in the associated stream file, wherein the video data includes data packets and each data packet has a packet number that differentiates one data packet from another; and ~~data packet and the map identifies the address for the at least one entry point by identifying the packet number of the data packets, and~~

performing a path change among the multiple reproduction paths ~~is performed~~ at the entry point identified by the map, the map identifies the address for the at least one entry point by identifying the packet number of the data packets.

14. (Currently Amended) An apparatus for recording a data structure for managing reproduction of video data having at least one reproduction path on a recording medium, comprising:

a recording unit configured to record data on the recording medium; and

a controller, operatively coupled to the recording unit, configured to control the recording unit to record stream files on the recording medium, each stream file including a portion of video data associated with one of a reproduction path and a particular reproduction path, each particular reproduction path being one path among multiple reproduction paths in the video data;

the controller configured to control the recording unit to record a at least one

playlist file on the recording medium, the playlist file including at least one playitem,

the playitem indicating a playing interval from in-point until out-point, the in-point

and out-point pointing to time positions on a time axis of the video data; and

the controller configured to control the recording unit to record clip information

files on the recording medium, the clip information files for managing reproduction of

the video data, each one of the clip information files being associated with a different

one of the stream files and each one of the stream files being associated with different

one of the multiple production paths when the stream files include the portion of video

data associated with the multiple production paths, each clip information file

including a map for the associated stream file, the map mapping a presentation time

stamp to an address for at least one entry point in the associated stream file,

wherein the video data includes data packets and each data packet has a

packet number that differentiates one data packet from another data packet, and the

map identifies the address for the at least one entry point by identifying the packet

number of the data packets, and a path change among the multiple reproduction

paths is performed at the entry point identified by the map.

15. (Currently Amended) An apparatus for reproducing a data structure for managing

reproduction of video data recorded on a recording medium, comprising:

a reproducing unit configured to reproduce data recorded on the recording

medium;

a controller, operatively coupled to the reproducing unit, configured to control

the recording unit to reproduce a at least one playlist file from the playlist file

including at least one playitem, the playitem indicating a playing interval from in-point

until out-point, the in-point and out-point pointing to time positions on a time axis of the video data;

the controller configured to control the reproducing unit to reproduce at least one clip information file from the recording medium, the at least one clip information file for managing reproduction of the video data, ~~each one of the clip information files being associated with a different one of stream files, each clip information file including a map for the associated stream file, the map mapping a presentation time stamp to an address for at least one entry point in the associated stream file;~~ and

the controller configured to control the reproducing unit to reproduce at least one stream file from the recording medium, each stream file including a portion of the video data associated with one of a common reproduction path and a particular reproduction path, each particular reproduction path being one path among multiple reproduction paths in the video data, <u>wherein each one of the clip information files being associated with different one of stream files, and each one of the stream files being associated with different one of the multiple reproduction paths when the stream files include the portion of video data associated with the multiple reproduction paths, each clip information file including a map for the associated stream file, the map mapping a presentation time stamp to an address for at least one entry point in the associated stream file,</u> wherein the video data includes data packets and each data packet has a packet number that differentiates one data packet from another ~~data packet, and the map identifies the address for the at least one entry point by identifying the packet number of the data packets~~, and <u>the controller configured to control performing</u> a path change among the multiple reproduction paths ~~is performed~~ at the entry point identified by the map<u>, the map identifies the address for the at least one entry point by identifying the packet number of the data packets</u>.

16. (Previously Presented) The computer readable medium of claim 3, wherein only one stream file is associated with each particular reproduction path representing a same time period of the video data.

17-18. (Cancelled)

19. (Previously Presented) The method of claim 12, wherein the stream files associated with the particular reproduction paths are interleaved between the stream files associated with the common reproduction paths.

20. (Previously Presented) The method of claim 12, wherein the common reproduction path and the particular reproduction path are respectively divided into one or more interleaving units, the interleaving units include packets associated with entry points, and a size of the interleaving unit and a number of entry points in the interleaving unit are determined to meet a buffer occupancy of a reproducing apparatus.

21. (Previously Presented) The method of claim 20, wherein the size and the number of entry points are determined to prevent a buffer from under-flowing or over-flowing during reproduction of the stream files.

22. (Previously Presented) The method of claim 13, wherein the stream files associated with the particular reproduction paths are interleaved between the stream files associated with the common reproduction paths.

23. (Previously Presented) The method of claim 13, wherein the common reproduction path and the particular reproduction path are respectively divided into one or more

interleaving units, the interleaving units include packets associated with entry points, and a size of the interleaving unit and a number of entry points in the interleaving unit are determined to meet a buffer occupancy of a reproducing apparatus.

24. (Previously Presented) The method of claim 23, wherein the size and the number of entry points are determined to prevent a buffer from under-flowing or over-flowing during reproduction of the stream files.

25. (Previously Presented) The apparatus of claim 14, wherein the stream files associated with the particular reproduction paths are interleaved between the stream files associated with the common reproduction paths.

26. (Previously Presented) The apparatus of claim 14, wherein the common reproduction path and the particular reproduction path are respectively divided into one or more interleaving units, the interleaving units include packets associated with entry points, and a size of the interleaving unit and a number of entry points in the interleaving unit are determined to meet a buffer occupancy of a reproducing apparatus.

27. (Previously Presented) The apparatus of claim 26, wherein the size and the number of entry points are determined to prevent a buffer from under-flowing or over-flowing during reproduction of the stream files.

28. (Previously Presented) The apparatus of claim 15, wherein the stream files associated with the particular reproduction path are interleaved between the stream files associated with the common reproduction path.

29. (Previously Presented) The apparatus of claim 15, wherein the common reproduction path and the particular reproduction path are respectively divided into one or more interleaving units, the interleaving units include packets associated with entry points, and a size of the interleaving unit and a number of entry points in the interleaving unit are determined to meet a buffer occupancy of a reproducing apparatus.

30. (Previously Presented) The apparatus of claim 29, wherein the size and the number of entry points are determined to prevent a buffer from under-flowing or over-flowing during reproduction of the stream files.

31. (Cancelled)

32. (Previously Presented) The computer readable medium of claim 1, wherein the playlist file includes at least one indicator for indicating a reproduction order of the common and particular reproduction path.

33. (Currently Amended) The apparatus of claim 14, wherein the recording unit includes a pickup to record the ~~v~~data on the recording medium.

34. (Currently Amended) The apparatus of claim 15, wherein the reproducing unit includes a pickup to reproduce the ~~v~~data from the recording medium.

35. (New) The apparatus of claim 34, wherein the controller is configured to control the recording unit to reproduce the video data in stream files to perform a path change among the multiple reproduction paths.

36. (New) The apparatus of claim 15, wherein the playitem on the playlist file indicating at least one clip information file, each of the clip information file associated with different one of the stream files including the portions of the video data associated with the particular reproduction path.